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PATENT ABSTRACTS OF JAPAN

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(71)Applicant : YOKOGAWA ELECTRIC CORP

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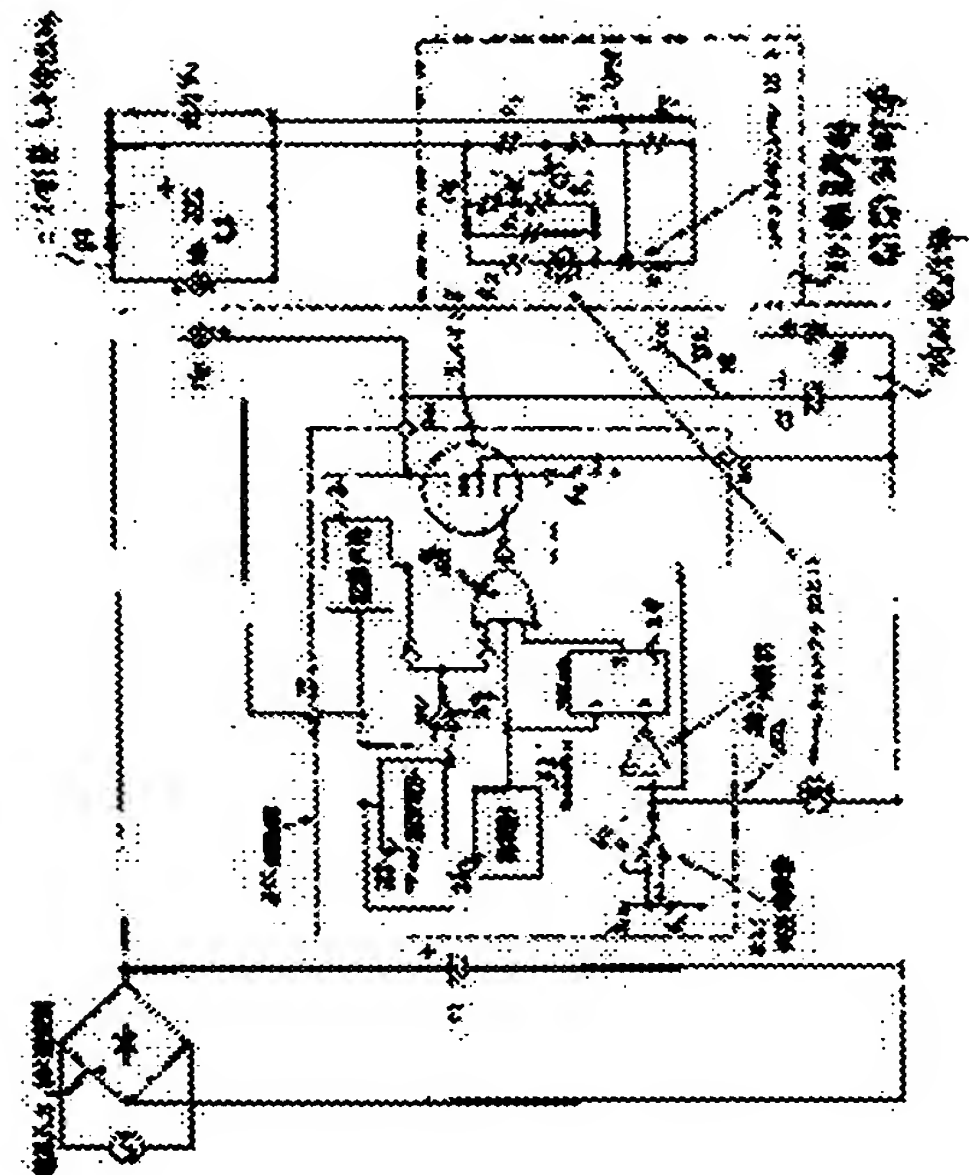
NISHIYAMA TOMOHIRO

(54) SWITCHING POWER SUPPLY

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a switching power supply of a small power loss by stabilizing the output voltage at a light load without using a dummy resistor.

SOLUTION: This power supply device is provided with a main switch for turning the DC current applied to a primary winding N_p on and off, a secondary-side rectifying and smoothing circuit for rectifying and smoothing an on/off signal induced in a secondary winding N_s and then supplying the rectified and smoothed signal as a main output voltage V_o , an auxiliary power supply section for rectifying and smoothing an on/off signal induced in a bias winding N_b and then supplying the rectified and smoothed signal as an auxiliary supply voltage V_{cc} , an error amplifier which generates an error voltage signal between the auxiliary supply voltage output from the auxiliary power supply section and a reference voltage, and a comparator 23 which sends an on/off control signal to the main switch in such a direction as to lower the error voltage signal sent out from the error amplifier. This power supply device is also provided with a light load switch controlling section 30, which temporarily stops the on/off operation of the main switch when the main output voltage V_o rises above the upper limit voltage and restarts the on/off operation of the main switch, when the main output voltage V_o drops below the lower limit voltage.



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